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MANAGING HEAT STRESS IN FED CATTLE

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During the summer months, heat stress in cattle can result in poor animal performance. Hot, humid weather creates dangerous conditions for all livestock, particularly heavy-fed cattle. Dark-coloured beef cattle on a high-energy diet, carrying lots of body condition, will be the first affected by heat and humidity.

Be aware of heat stress and what to do about it. Use the cattle and water management tips below to help minimize the impact of heat stress on cattle.

CATTLE MANAGEMENT

- If possible, keep current on marketing finished cattle at the start of the hot months of summer. Monitor hot weather, as it affects intake and performance. See the OMAFRA website for additional information.
- Space and shade availability become critical during severe heat conditions. For normal conditions, *Guidelines for Housing Beef Cattle*, a Canada Plan Series publication, recommends:
  - 2.5 m^2 (27 ft^2) per head on slatted floors
  - 2.8 m^2 (30 ft^2) of barn and 4.6 m^2 (50 ft^2) yard space per head with a barn and paved yard
  - 2.8 m^2 (30 ft^2) of barn and 28 m^2 (300 ft^2) yard space per head with barn and dirt yard
- In excessive heat situations, increase your shaded area to allow cattle to spread out. If a shed is available, too many cattle may crowd in looking for shade. Find ways to create temporary shade.
- Maximize airflow to all cattle, and especially those most susceptible. Open up barns if possible and use fans to move air, doubling winter ventilation rates to 5.7 cubic metres (200 cubic feet) per minute.
- Avoid peak daytime temperatures when working cattle. Truck, work or process cattle early in the morning or late in the evening. Try to avoid movement between 8 AM and 8 PM, since working cattle will raise body temperatures.
- Adjust the feeding schedule, shifting daily feed delivery toward evening. This puts rumination and its associated heat production in the cooler hours of the evening.

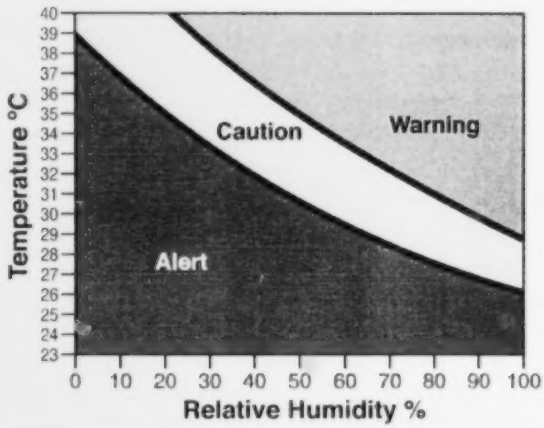

Figure 1. Temperature/Humidity Index
(*Livestock Trucking Guide*, Livestock Conservation Institute)

- Monitor weather forecasts for high-alert conditions. High temperatures, high humidity and low wind speed can be a deadly combination.
- When the temperature/humidity index reaches the Caution and Warning categories (see Figure 1, above), watch cattle closely for signs of heat stress and stroke. Excessive respiration or panting, bunching (trying to reduce solar radiation), dullness and a stumbling gait may be indicative of heat stroke. Animals with rectal temperatures of 40°C are in immediate danger and will require immediate cooling. Emergency slaughter is a possibility, but there is a higher incidence of dark cutters in heat-stressed cattle.

WATER MANAGEMENT

- Adequate water supply must be available at all times. Finishing steers will require up to 76 L (20 gal)/head/day. Usually 0.4 m^2 (4 ft^2) of water surface per 100 head is adequate, but daily demand may double during hot humid periods. If cattle are crowding existing water sources, consider placing extra stock tanks in pens.

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- Wetting down the pen or mound surface will help give cattle a cooler place to lie down. In emergency situations, try to shade the ground and move animals to a cooler surface if possible; grass is cooler than bare ground, which is cooler than concrete.
- Set up sprayers or sprinklers to wet down cattle. In a pinch, a hose and sprinkler running on and off every 20 min during the hottest part of the day will alleviate some stress and associated death loss. This increased evaporation helps lower the cattle's temperature.
  Note: Wetting cattle or pen surfaces may require an additional 38 L (10 gal) of water/animal/day or more! Do you have a large enough supply of water to do this?

CONCLUSION

- Hot, humid days will create problems for heavy cattle on feed.
- Have an emergency plan in place — water and shade sources.
- Monitor weather reports and try to alleviate heat stress on most susceptible cattle.
- If cattle are showing signs of heat stroke, reduce animal temperatures immediately.

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